Claims

1. A communication apparatus for setting up a data connection between intelligent devices, having

   a coil (13, 23, 33) which is part of a transmission oscillator (50) for carrying out a contactless data exchange,

   a communication element (12, 22) which is connected to the coil (13, 23, 33) and the data processing component (11, 21) of an intelligent device (10, 20, 30) and which emits search signals via the coil (13, 23, 33) to receive a response from another intelligent device (10, 20, 30),

   a measuring device (14, 24) for monitoring a property of the transmission oscillator (50) which outputs a control signal when ascertaining a change of the monitored property,

   and a switching apparatus (15, 25) which is connected to the measuring device (14, 24) and the communication element (12, 22) and which switches on the communication element (12, 22) when it has received a control signal from the measuring device (14, 24).

2. The communication apparatus according to claim 1, characterized in that an assembly (52) is switchable to the transmission oscillator (50) via a switch (47), said assembly causing an increase in the bandwidth of the oscillating circuit (50).

3. The communication apparatus according to claim 2, characterized in that the assembly (52) is a resistive element.

4. The communication apparatus according to claim 1, characterized in that an assembly (51) is switchable to the transmission oscillator (50) via a switch (47), said assembly causing a change in the resonant frequency of the transmission oscillator (50).

5. The communication apparatus according to claim 4, characterized in that the assembly (51) causes a reduction in the resonant frequency.

6. The communication apparatus according to claim 4, characterized in that the assembly (51) comprises a capacitor.

7. The communication apparatus according to claim 1, characterized in that the measuring frequency of the measuring device (14) is sweepable over a predetermined frequency domain.

8. The communication apparatus according to claim 1, characterized in that the switching apparatus (15, 25) has a time controller (45) for cyclically switching the measuring device (14, 24) on and off.

9. The communication apparatus according to claim 8, characterized in that the time controller (45) keeps the on state of the measuring device (14, 24) shorter than the off state.

10. The communication apparatus according to claim 8, characterized in that the measuring device (14, 24) stores a measuring value obtained during a cyclical on phase.

11. The communication apparatus according to claim 8, characterized in that the measuring device (14, 24) emits a control signal to the switching apparatus (15, 25) when a measuring value deviates from the average of the measuring values stored with the previous on phases.

12. The communication apparatus according to claim 8, characterized in that when the intelligent device (10, 20, 30) is switched on the communication element (12, 22) is initially on and the measuring device (14, 24) off.

13. The communication apparatus according to claim 1, characterized in that the measuring device (14, 24) has a first oscillator device (60) coupled at least temporarily with the coil (13, 23, 33), for producing a first oscillation signal, and a second oscillator device (62) for producing a second oscillation signal.

14. The communication apparatus according to claim 13, characterized in that the measuring device (14, 24) has circuit components (64, 65, 66, 67) for producing

the control signal for the switching apparatus (15, 25) on the basis of a phase relation between the first and second oscillation signals or signals derived therefrom.

15. A method for switching on a communication element designed to use a coil (13, 23, 33), which is part of a transmission oscillator (50), for automatically setting up a data connection with an intelligent device (10, 20, 30) likewise having a communication element (12, 22) and a coil (13, 23, 33), having the following steps:

monitoring a parameter of the transmission oscillator (50) by means of a measuring device (14, 24),

producing a control signal upon the occurrence of a change in the monitored property,

switching on the communication element (12, 22) by a switching apparatus (15, 25) due to the control signal.

16. The method according to claim 15, characterized in that the measuring frequency of the measuring unit (46) is swept over a given frequency domain during the monitoring of the property.